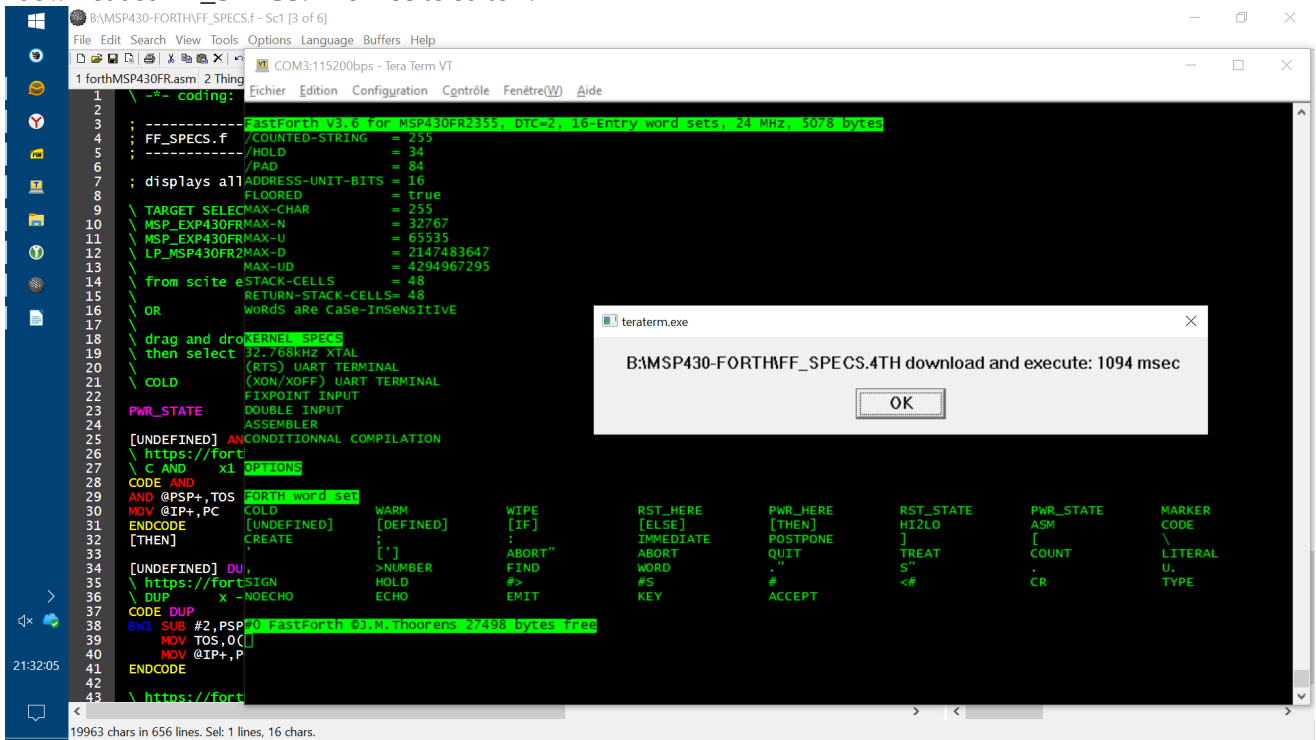


## FastForth 3.6 out of the box

We have programmed MSP-EXP430FR2355 launchpad with MSP\_EXP430FR2355\_24MHz\_UART.txt, then downloaded FF\_SPECS.f from scite editor :



```
1  --*- coding: utf-8
2
3  ;-----
4  ; FF_SPECS.f
5  ;-----
6
7  ; displays all
8
9  /TARGET SELECTION
10 /MSP_EXP430FR2355
11 /MSP_EXP430FR2355
12 /LP_MSP430FR2355
13 /MSP_EXP430FR2355
14 /MSP_EXP430FR2355
15 /MSP_EXP430FR2355
16 /MSP_EXP430FR2355
17 /MSP_EXP430FR2355
18 /MSP_EXP430FR2355
19 /MSP_EXP430FR2355
20 /MSP_EXP430FR2355
21 /MSP_EXP430FR2355
22 /MSP_EXP430FR2355
23 /MSP_EXP430FR2355
24 /MSP_EXP430FR2355
25 /MSP_EXP430FR2355
26 /MSP_EXP430FR2355
27 /MSP_EXP430FR2355
28 /MSP_EXP430FR2355
29 /MSP_EXP430FR2355
30 /MSP_EXP430FR2355
31 /MSP_EXP430FR2355
32 /MSP_EXP430FR2355
33 /MSP_EXP430FR2355
34 /MSP_EXP430FR2355
35 /MSP_EXP430FR2355
36 /MSP_EXP430FR2355
37 /MSP_EXP430FR2355
38 /MSP_EXP430FR2355
39 /MSP_EXP430FR2355
40 /MSP_EXP430FR2355
41 /MSP_EXP430FR2355
42 /MSP_EXP430FR2355
43 /MSP_EXP430FR2355
```

FastForth V3.6 for MSP430FR2355, DTC=2, 16-Entry word sets, 24 MHz, 5078 bytes

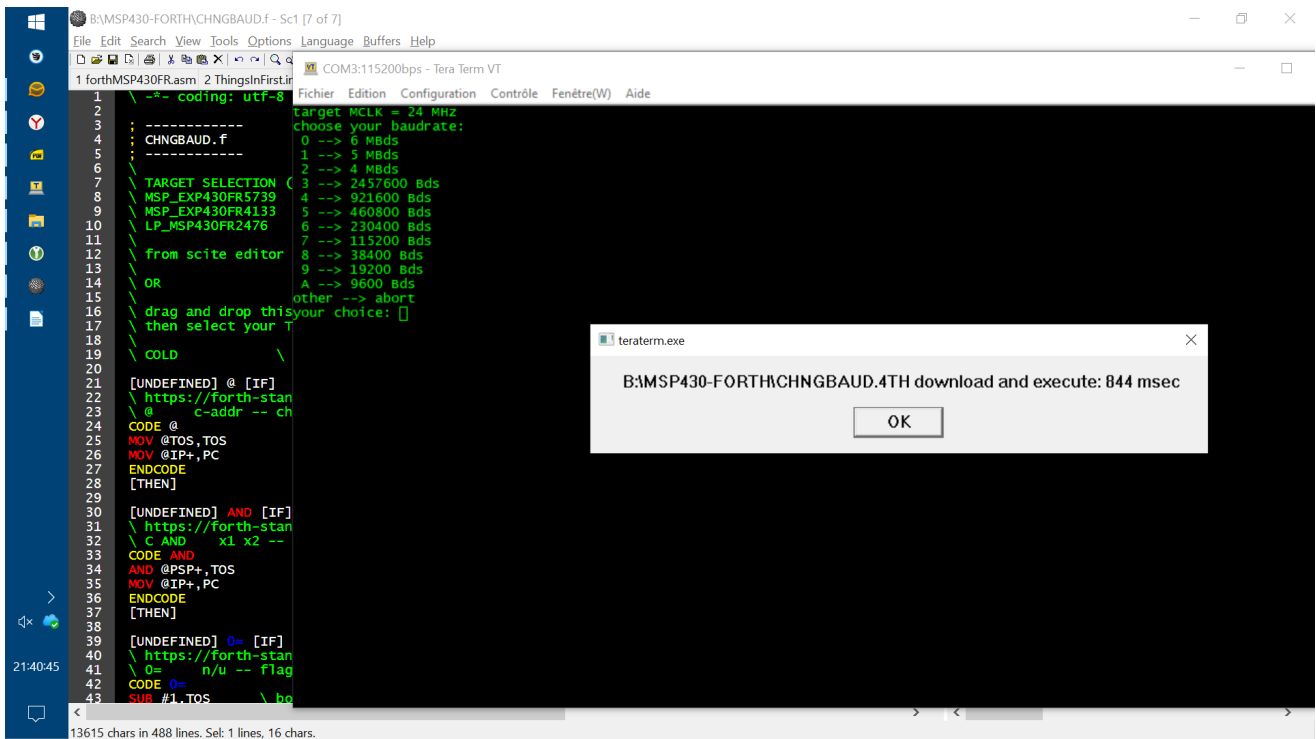
COM3:115200bps - Tera Term VT

teraterm.exe

B:\MSP430-FORTH\FF\_SPECS.4TH download and execute: 1094 msec

OK

We try to speed up downloading, we download CHNGBAUD.f :



```
1  --*- coding: utf-8
2
3  ;-----
4  ; CHNGBAUD.f
5  ;-----
6
7  /TARGET SELECTION
8 /MSP_EXP430FR5739
9 /MSP_EXP430FR4133
10 /LP_MSP430FR2476
11 /MSP_EXP430FR5739
12 /MSP_EXP430FR5739
13 /MSP_EXP430FR5739
14 /MSP_EXP430FR5739
15 /MSP_EXP430FR5739
16 /MSP_EXP430FR5739
17 /MSP_EXP430FR5739
18 /MSP_EXP430FR5739
19 /MSP_EXP430FR5739
20 /MSP_EXP430FR5739
21 /MSP_EXP430FR5739
22 /MSP_EXP430FR5739
23 /MSP_EXP430FR5739
24 /MSP_EXP430FR5739
25 /MSP_EXP430FR5739
26 /MSP_EXP430FR5739
27 /MSP_EXP430FR5739
28 /MSP_EXP430FR5739
29 /MSP_EXP430FR5739
30 /MSP_EXP430FR5739
31 /MSP_EXP430FR5739
32 /MSP_EXP430FR5739
33 /MSP_EXP430FR5739
34 /MSP_EXP430FR5739
35 /MSP_EXP430FR5739
36 /MSP_EXP430FR5739
37 /MSP_EXP430FR5739
38 /MSP_EXP430FR5739
39 /MSP_EXP430FR5739
40 /MSP_EXP430FR5739
41 /MSP_EXP430FR5739
42 /MSP_EXP430FR5739
43 /MSP_EXP430FR5739
```

target MCLK = 24 MHz  
choose your baudrate:

0 --> 6 MBds  
1 --> 5 MBds  
2 --> 4 MBds  
3 --> 2457600 Bds  
4 --> 921600 Bds  
5 --> 460800 Bds  
6 --> 230400 Bds  
7 --> 115200 Bds  
8 --> 38400 Bds  
9 --> 19200 Bds  
A --> 9600 Bds  
other --> abort

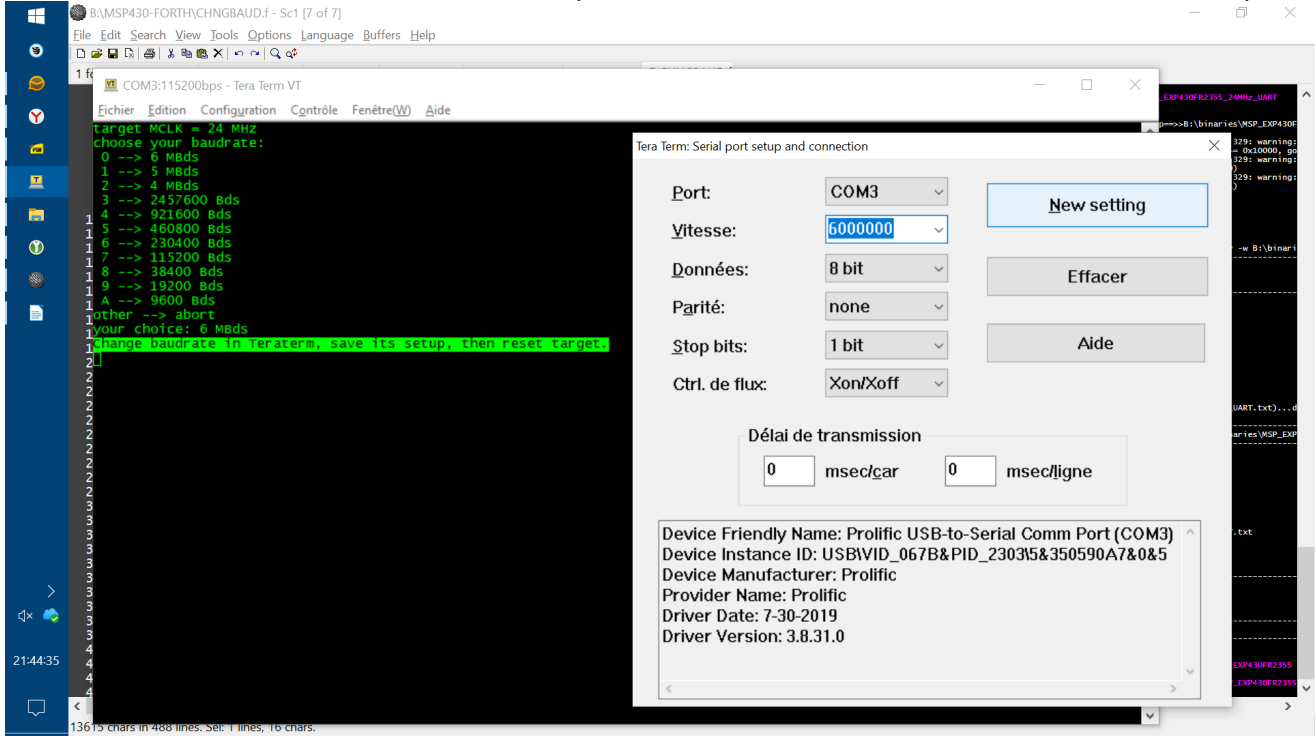
COM3:115200bps - Tera Term VT

teraterm.exe

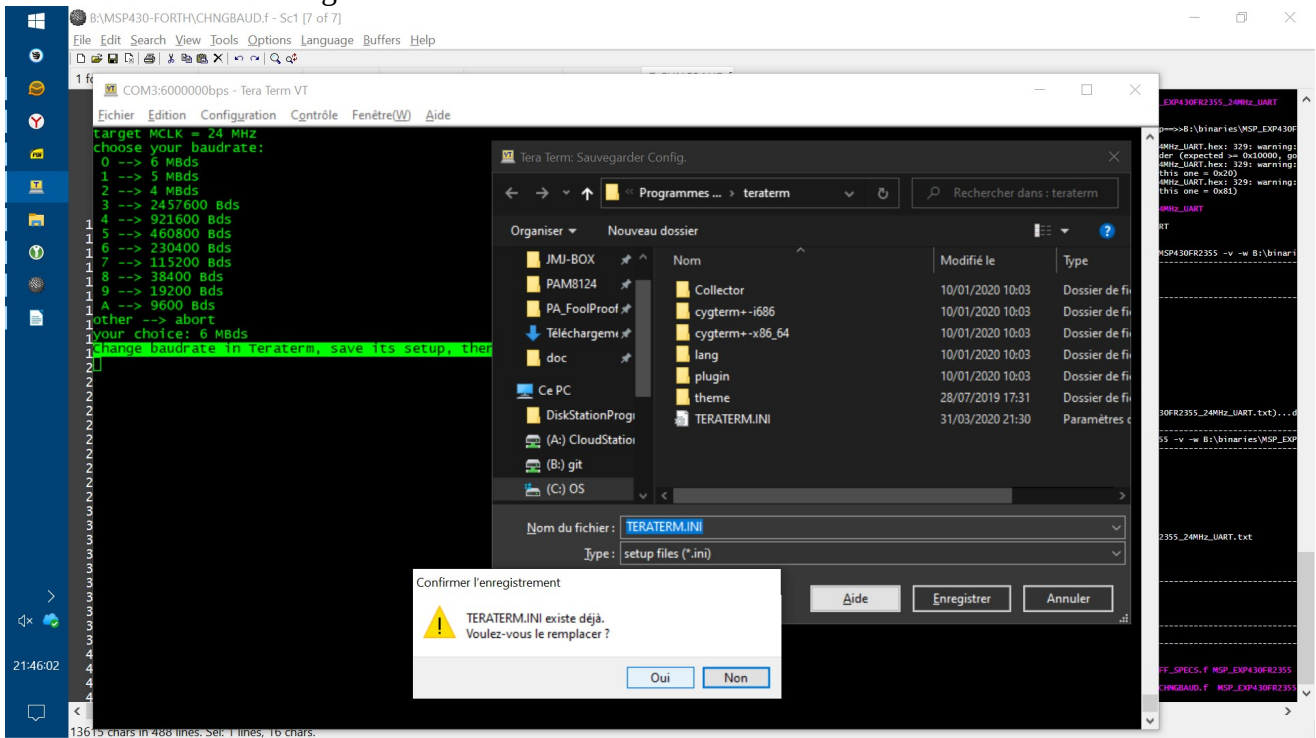
B:\MSP430-FORTH\CHNGBAUD.4TH download and execute: 844 msec

OK

I choose the baudrate max for MCLK=24MHz ( because I have a PL2303HXD cable shortened at 20 cm) :

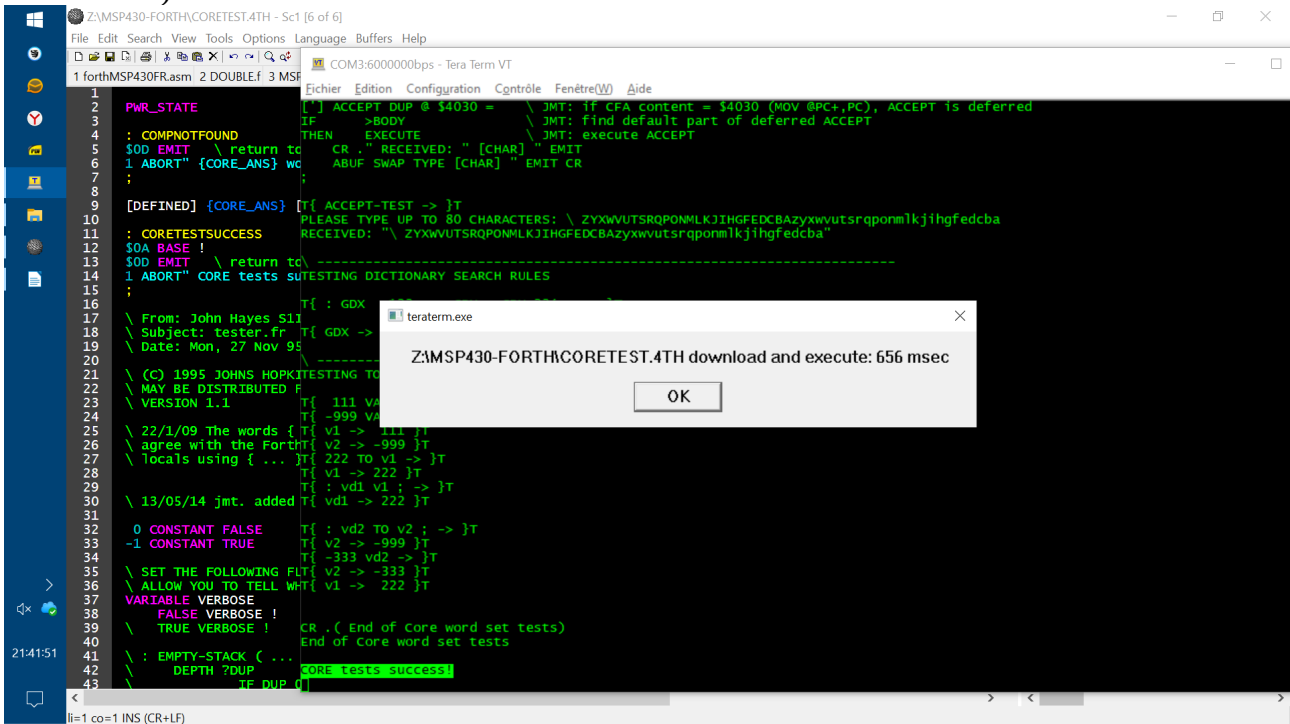


then we save new settings :



and we reset the launchpad before the next.

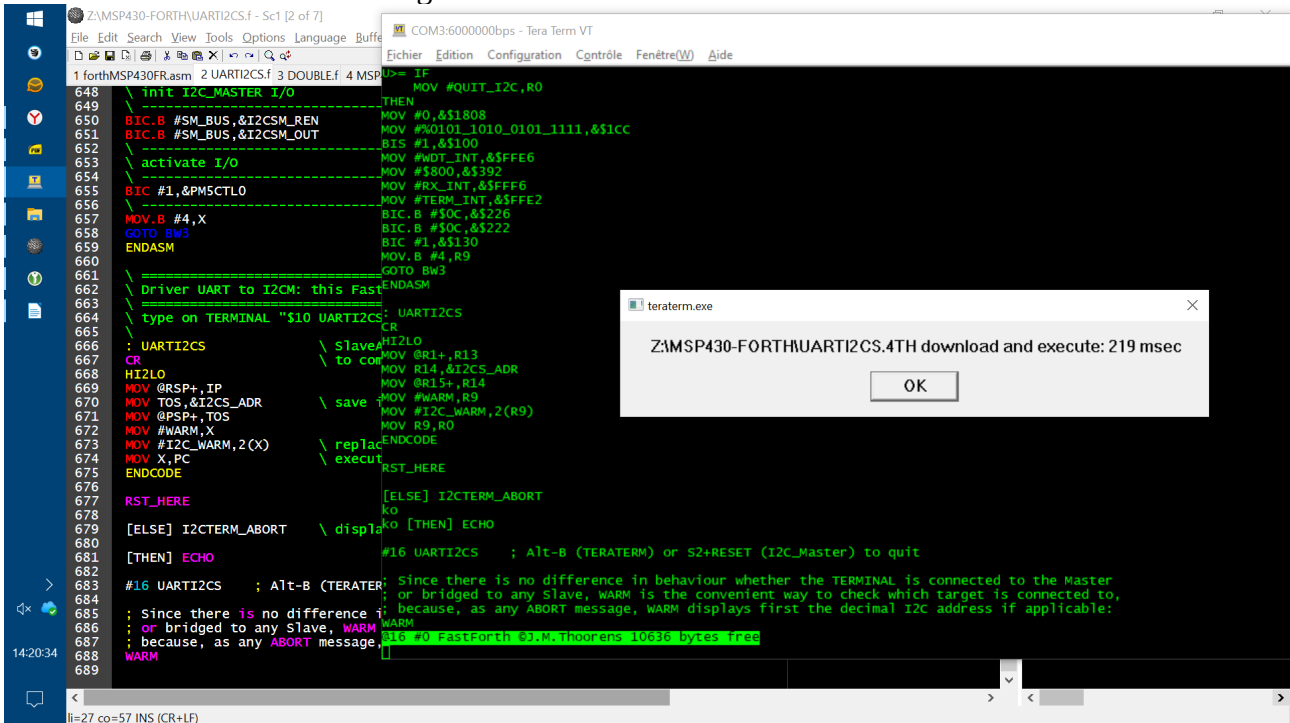
FAST FORTH @ 24MHz downloading CORETEST.4TH, (after CORE\_ANS.f has been downloaded)



Notice the simplest of IDE's : scite editor, FastForth with its terminal. And the baudrate of COM3...

As another launchpad with I2C\_FastForth is wired via an I2C BUS onto this launchpad, we can connect it :

FAST FORTH after downloading of the driver UARTI2CS.f



We see the work of preprocessor GEMA that replaces symbolic names by assembler's ones. We also see the decimal address of the connected I2C\_FastForth at the beginning of the message in reverse video.

I2C\_Slave FAST FORTH @24MHz downloading CORETEST.4TH, (after CORE\_ANS.f has been downloaded)

```
1 PWR_STATE
2
3
4 : COMPNOTFOUND
5 $OD EMIT \ return to column 1
6 1 ABORT" {CORE_ANS} word set not found!"
7 ;
8
9 [DEFINED] {CORE_ANS} [IF]
10
11 : CORETESTSUCCESS
12 $OA BASE !
13 $OD EMIT \ return to column 1
14 1 ABORT" CORE tests success!"
15 ;
16
17 \ From: John Hayes S1I
18 \ Subject: tester.fr
19 \ Date: Mon, 27 Nov 95 13:10:00
20
21 \ (C) 1995 JOHNS HOPKINS UNIVERSITY
22 \ MAY BE DISTRIBUTED FREELY AND WITHOUT CHARGE
23 \ VERSION 1.1
24
25 \ 22/1/09 The words { and } have been changed to {i and }i respectively to
26 \ agree with the Forth 200X file tester.fs. This avoids clashes with
27 \ locals using { ... } and the FSL use of { ... }
28
29 \ 13/05/14 jmt. added coloris
30
31 0 CONSTANT FALSE
32 -1 CONSTANT TRUE
33
34 \ SET THE FOLLOWING FLAG TO TRUE FOR MORE VERBOSE OUTPUT; THIS MAY
35 \ ALLOW YOU TO TELL WHICH TEST CAUSED YOUR SYSTEM TO HANG.
36 VARIABLE VERBOSE
37 FALSE VERBOSE !
38 TRUE VERBOSE !
39
40 \ EMPTY-STACK ( ... -- )
41 \ DEPTH ?DUP
42
43 IF DUP 0< IF NEGATE 0
```

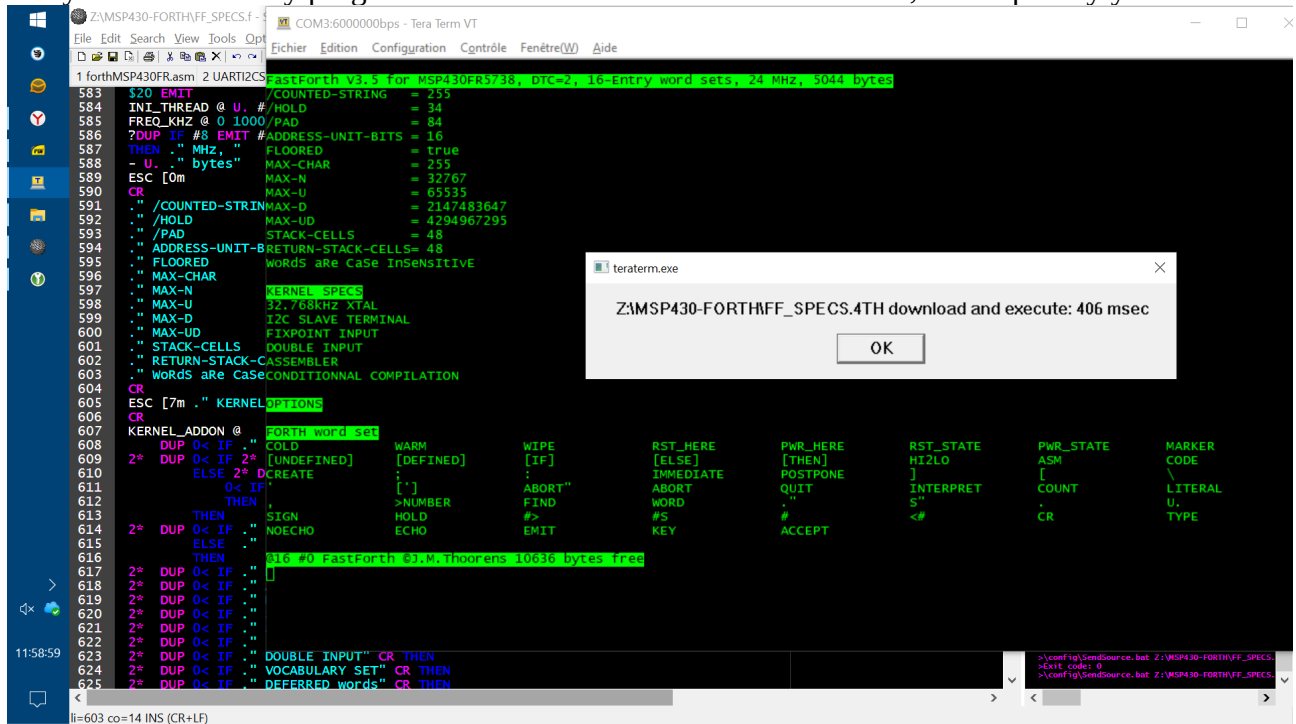
No difference in behavior of FastForth with UART TERMINAL or with I2C TERMINAL, apart from the download time...

same, with an error due to a word not found

```
1 PWR_STATE
2
3
4 : COMPNOTFOUND
5 $OD EMIT \ return to column 1
6 1 ABORT" {CORE_ANS} word set not found!"
7 ;
8
9 [DEFINED] {CORE_ANS} [IF]
10
11 : CORETESTSUCCESS
12 $OA BASE !
13 $OD EMIT \ return to column 1
14 1 ABORT" CORE tests success!"
15 ;
16
17 \ From: John Hayes S1I
18 \ Subject: tester.fr
19 \ Date: Mon, 27 Nov 95 13:10:00
20
21 \ (C) 1995 JOHNS HOPKINS UNIVERSITY
22 \ MAY BE DISTRIBUTED FREELY AND WITHOUT CHARGE
23 \ VERSION 1.1
24
25 \ 22/1/09 The words { and } have been changed to {i and }i respectively to
26 \ agree with the Forth 200X file tester.fs. This avoids clashes with
27 \ locals using { ... } and the FSL use of { ... }
28
29 \ 13/05/14 jmt. added coloris
30
31 0 CONSTANT FALSE
32 -1 CONSTANT TRUE
33
34 \ SET THE FOLLOWING FLAG TO TRUE FOR MORE VERBOSE OUTPUT; THIS MAY
35 \ ALLOW YOU TO TELL WHICH TEST CAUSED YOUR SYSTEM TO HANG.
36 VARIABLE VERBOSE
37 FALSE VERBOSE !
38 TRUE VERBOSE !
39
40 \ EMPTY-STACK ( ... -- )
41 \ DEPTH ?DUP
42
43 IF DUP 0< IF NEGATE 0
```

Once the error is fixed in the source file, FastForth is ready to reload it **without any other action**, due to the smart error process that automatically shortens the main program to its state defined by **PWR\_STATE**.

After downloading FF\_SPECS.f, we see the FastForth specifications in its minimum configuration, ready to download any program file from the \MSP430-FORTH folder, and hopefully yours too !



By leveraging the best of FRAM technology and thanks to its amazing innovations, FastForth is impressive in efficiency during the most expensive development phase of a program with its very many round trips between real-time testing and code fixes.

And, by modifying the I2C addresses in the UARTI2CS.f file we can work with many I2C\_FastForth targets...